REMARKS

In accordance with the foregoing, claims 1, 3, 7, 9, 13, 15, and 19-20 are amended and new claims 21-24 are presented. No new matter is being presented, and approval and entry of the amended and the new claims are respectfully requested.

Claims 1, 3, 4-7, 9-13 and 15-24 are pending and under consideration. Reconsideration is requested.

Claim Amendments

Claim 1 is amended herein to recite an apparatus including " . . . a block extracting unit that extracts a pair of blocks from the divided blocks; an index extracting unit that extracts outputs a feature index of a first color component and a feature index of a second color component which differs from the first color component from the divided blocks; and a code embedding unit that embeds a code into the divided block of image data, by changing at least one of the extracted feature index of the first color component of the pair of blocks based on at least one of the extracted feature index of the second color component of the pair of blocks and information about correspondence between the one of the extracted feature index of the second color component and a change of the feature index of the first color component." (Amendatory language being underlined). Claims 7, 13, and 19-20 are similarly amended herein.

Dependent claims 3, 9 and 15 are amended accordingly. No new matter is being presented, and approval and entry of the amended claims are respectfully requested.

Traverse of §§102/103 Rejections

I. In item 6 of the Office Action, the Examiner rejects independent claims 1, 7, and 13 and dependent claims 3-4, 6, 9-10, 12, 15-16 and 18 under 35 U.S.C. §103(a) as being unpatentable over Cass (U.S.P. 6,141,441) in view of Reed (US-2002/0164052I).

In item 7 of the Office Action, the Examiner rejects dependent claims 5, 11 and 17 under 35 U.S.C. 103(a) as being unpatentable over Cass and DeProspero (US-2002/0040648).

The rejections are traversed. Applicants submit that features recited by each of the independent clams are not taught by even an *arguendo* combination of the art of record.

Applicants submit that features recited by independent claim 1 including, for example, an index extracting unit that "extracts a feature index of a first color component and a feature index of a second color component which differs from the first color component from the divided block," are not taught by Cass. (Emphasis added).

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Further, as recited by claim 1, the code embedding unit "embeds a code into the divided block of the image data, by changing at least one of the extracted feature index of the first color component of the pair of blocks based on at least one of the extracted feature index of the second color component of the pair of blocks and information about correspondence between the one of the extracted feature index of the second color component and a change of the feature index of the first color component," that is not taught by Cass.

By contrast with the recitation of claim 1, for example, Cass merely teaches:

> FIG. 13 illustrates a pair of 1D signal blocks 632 and 633 that encode data items having the possible values of "0" and "1". Signal blocks 632 and 633 define an output signal block to have a dimension of K color cells in the x direction and may be of any arbitrary size in the y direction. Each signal block has a pattern of color modulations that is distinct and unique from the other, as required by the definition of a signal block. FIG. 14 illustrates an output image 674 having message 21 encoded into a linear sequence of signal blocks 632 and 633 to form message image 675. (Message image 675 is comprised of the signal blocks before a color value has been applied, or added, to them, so that the encoding of the message values can be illustrated by the cross-hatching patterns.) The bottom edge of message image 675 is shown as being incomplete to indicate that the y height dimension of message image 675 may be of any arbitrary height.

(Emphasis added, See, for example, col. 17, lines 20-36).

That is, Cass merely teaches that signal blocks 632 and 633 define an output signal block to have a dimension of K color cells in a direction so that a color index is extracted from only one color - - i.e., black

Further, Cass merely teaches that patterns, i.e., signal blocks 632, 633 are of only one color and are encoded into the image data (i.e., "an output image 674 having message 21 encoded into a linear sequence of signal blocks 632 and 633 to form message image 675") regardless of another color different from the black.

Applicants submit that nothing in teaching of Reed overcomes these deficiencies in the teaching of Cass.

Thus, the rejection should be withdrawn and independent claims 1, 7 and 13 allowed.

Dependent claims 3-6, 9-11, 12, 15-17 and 18 inherit the patentable recitations of respective base claims and therefore, patentably distinguish over the cited art for at least the reasons discussed above.

Thus, the rejection should be withdrawn and claims 1, 3-7, 9-13, and 15- 18 allowed.

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II. In item 4 of the Office Action, the Examiner rejects independent claims 19 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Cass.

As set forth in MPEP §2131, to establish anticipation under §102, "the reference relied on in support of the rejection must teach each and every element of the claim and the identical invention must be shown in as complete detail as in the claim."

Applicants submit that Cass does not teach each and every element recited by independent claims 19 and 20.

Independent claim 19 recites an image data processing apparatus including "a code embedding unit that embeds a code into a pair of blocks of image data by changing at least a feature index of a first color component of a block of the pair of blocks based on a magnitude relationship between the feature indices of color components related to the pair of blocks."

Independent claim 20 recites an image data processing method including "pairing blocks of image data; and embedding a code into the paired blocks by changing at least a feature index of a first color component of a block of the paired of blocks based on a magnitude relationship between the feature indices of the first color component and second color component which differs from the first color component of the paired blocks."

As discussed in traversing rejection of claim 1, Cass merely teaches (see, for example, col. 17, lines 22-23 that Signal blocks 632 and 633 define an output signal block to have a dimension of K color cells in the direction", color index is extracted from only one color, which is black in Cass. And patterns (632, 633 in Cass) made of only one color are encoded into the image data irrelevantly from another color different from the black, which is disclosed at Cass page 17 lines 27 to 29 as "Fig. 14 illustrates an output image 674 having message 21 encoded into a linear sequence of signal blocks 632 and 633 to form message image 675."

That is Cass does not teach a code embedding unit "embeds a code into a pair of blocks of image data by changing at least a feature index of a first color component of a block of the pair of blocks based on a magnitude relationship between the feature indices of color components related to the pair of blocks", as recited by claim 19.

Cass does not teach "embedding the code into the paired blocks by changing at least a feature index of a first color component of a block of the paired of blocks based on a magnitude relationship between the feature indices of the first color component and second color component which differs from the first color component of the paired blocks", as recited by claim 20.

Thus, the rejection should be withdrawn and claims 19-20 allowed.

Conclusion

In view of the above, the rejections should be withdrawn and claims 1, 3-7, 9-13, and 19-20 allowed.

New Claims

New claims 21-24 are presented to recite features in a different manner. Claim 21 recites an embedding unit that is included in an image data processing apparatus, including "a dividing unit that divides image data into a plurality of blocks; a block extracting unit that extracts a pairs of blocks from the divided block; and an index extracting unit that extracts a feature index of a first color component and a feature index of a second color component which differs from the first color component from the divided block, wherein the code embedding unit embeds a code into the divided block of the image data, by changing at least one of the extracted feature index of the first color component of the pair of blocks based on at least one of the extracted feature index of the second color component of the pair of blocks and information about correspondence between the one of the extracted feature index of the second color component and a change of the feature index of the first color component." New claims 22 and 24 have similar recitations.

New claim 23 recites a method of pairing blocks of image data in an image data processing method, including "pairing blocks of image data; and embedding a code into the paired blocks by changing at least a feature index of a first color component of a block of the paired of blocks based on a magnitude relationship between the feature indices of the first color component and second color component which differs from the first color component of the paired blocks."

No new matter is presented and, accordingly, approval and entry of the new clams are respectfully requested.

These features of claims 21-24 patentably distinguish over the cited art, and they are submitted to be allowable for the recitations therein.

Conclusion

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

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If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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